protoype of the DA provides clear information about the treatment options and their side-effects. Issues about the usability of the DA were reported and enabled us to improve and simplify the DA. The next step is to perform a thorough development process, and to gain knowledge about decisional needs.

Conclusion: The systematic and iterative approach used to develop and validate the DA, allows to follow a thoroughly development process, and to gain knowledge about decisional needs.

Poster Viewing: 11: Clinical: Breast, head and neck

PV-0510
Evaluation of a breast cancer nomogram to predict local relapse after breast conserving therapy
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Purpose or Objective: Van Werkhoven et al. developed a nomogram to predict the 10-years ipsilateral breast relapse (IBR) after breast conserving therapy (BCT) for breast cancer (BC) based on the European Organisation for Research and Treatment of Cancer (EORTC) ‘boost no boost’-trial with a concordance probability estimate (CPE) of 0.68 (van Werkhoven E, et al. 2011, Radiother Oncol). The nomogram includes histologic grade, ductal carcinoma in situ (DCIS), tumour diameter, age, tamoxifen, chemotherapy and boost. The aim of this study was to evaluate the performance of that algorithm in an independent cohort.

Material and Methods: We retrospectively identified 1866 BC patients who underwent BCT with radiotherapy from 2000 to 2007. Two definitions of IBR were considered where simultaneous regional or distant recurrence were either censored (conform EORTC analysis) or included as event. Patient, tumour and treatment characteristics were evaluated in uni- and multivariable analysis. Firstly we assessed discrimination, i.e. the extent to which patients predicted to be at higher risk exhibit higher event rates than those deemed at lower risk, by the CPE. The CPE was determined based on a Cox model with time to IBR as outcome and the EORTC nomogram 10-years IBR-free probability as the only covariate. Secondly a calibration plot was drawn, showing the predicted 10-years IBR-free probabilities against observed Kaplan-Meier estimates, to reflect prediction accuracy, i.e. the absence of over- or underestimation. Results: Median follow-up time was 10.75 years. Patients were on average older (58 vs 54 years), had a larger average tumour diameter (18 mm vs 15 mm) and were more likely to have received chemotherapy (29.7% vs 15.7%), to have a high grade disease (37.0% vs 23.5%) and to have a DCIS (69.8% vs 57.8%). Twenty-three percent of the patients received tamoxifen in the EORTC group, whereas 81.6% received hormononal therapy in the validation group. Almost all patients (99.7%) in the validation group received a boost versus 50.4% in the EORTC cohort. Noteworthy on the variables not included in the nomogram, in patients in the validation cohort had a higher percentage of oestrogen and progesterone receptor positivity (86.4% vs 71.7% and 75.9% vs 64.3%, respectively) and 10.2% had HER2 overexpression. The 10-years IBR-rate was 1.4%. On multivariable analysis, only the omission of the boost dose was a significant underestimation.

Figure 1. Performance metrics for the two definitions of local relapse.

Conclusion: The EORTC predictive model for IBR in BC patients lacks accuracy in this more recent study population. Therefore the model should be tested and verified in additional, large patient populations and incorporating molecular subtyping might be needed.

PV-0511
Hypofractionated VMAT for early stage breast cancer: acute toxicity and cosmesis in 840 patients
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Purpose or Objective: To evaluate acute toxicity and early clinical outcomes of hypofractionated simultaneous integrated boost (SIB) approach with Volumetric Modulated Arc Therapy (VMAT) as adjuvant treatment after breast-conserving surgery.

Material and Methods: Patients presenting early-stage breast cancer were enrolled in a phase II trial. Eligibility criteria were as follow: age >18 years, invasive cancer or DCIS, Stage I to II (T <3 cm and N3), breast -conserving surgery, any systemic therapy was allowed in neoadjuvant or adjuvant setting. All patients underwent VMAT-SIB technique to irradiate the whole breast with concomitant boost irradiation of the tumor bed. Doses to whole breast and surgical bed were 40.5 Gy and 48 Gy respectively, delivered in 15 fractions over 3 weeks Acute skin toxicities were recorded according to RTOG scoring criteria, and late skin toxicities according to CTCAE v4.0. Cosmetic outcomes were assessed as excellent/good or fair/poor according to the Harvard scale.

Results: Between August 2010 and January 2015, 840 consecutive patients were treated. Median age was 60 year (range 19-89 years). The median follow up was 16 months (range 6-55). At the end of RT treatment skin toxicity profile was G1 in 49% of the patients, G2 in 13%, and one patients presented G3 toxicity (0.1%). At six months of follow up skin toxicity was G1 in 27% of patients, G2 in 1%, no G3 cases;
Conclusion: The 3-week course of postoperative radiation using VMAT with SIB was well tolerated in acute and early late settings. Long-term follow-up data are needed to assess late toxicity and clinical outcomes.

PV-0512
Accelerated partial breast irradiation for Luminal-A breast cancer: analysis from a phase 3 trial

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Purpose or Objective: Breast cancer (BC) could be classified into four major molecular subtypes: Luminal-A, Luminal-B, triple negative/basal-like, human epidermal growth factor 2 (HER2) enriched. This classification could be based on immunohistochemistry, and may allow the clinicians to optimize treatment management. Luminal-A tumors represent around 40% of BC and are characterized by: estrogen receptor (ER) and/or progesterone receptor (PgR) positive, HER2/neu negative, and low Ki-67 proliferative index. Early Luminal-A tumors tend to have an excellent prognosis, with high survival and low recurrence rates. The aim of this analysis was to observe Luminal-A outcome from a phase 3 trial comparing whole-breast irradiation (WBI) to accelerated partial breast irradiation (APBI) using intensity-modulated radiotherapy (IMRT) technique.

Material and Methods: In the whole trial 520 patients were randomized in 1:1 ratio to receive APBI versus WBI after breast conserving surgery for early BC. The primary endpoint was occurrence of ipsilateral breast tumor recurrence (IBTR); the main analysis was by intention-to-treat. This trial was registered with ClinicalTrials.gov, number NCT02104895.

Results: Luminal-A patients represented the 61.5% of the whole series (151 WBI versus 169 APBI). 5-year event rate according to allocated group showed no statistical difference in terms of IBTR (p=0.53). One case (0.9%) versus two cases (1.7%) were observed in the WBI and APBI arms, respectively. Survival events occurrences and IBTR curve are summarized in the Figures.

Conclusion: We observed a very low 5-year rate of IBTR for Luminal-A patients treated with APBI. Although these results should be confirmed at a longer follow up time, this approach should be considered for this subset of early BC patients.

PV-0513
The impact of chemotherapy on toxicity in the era of hypofractionated radiotherapy

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Purpose or Objective: To evaluate toxicity in breast cancer patients treated with anthracycline and taxane based chemotherapy and whole breast hypofractionated radiotherapy, and to identify the risk factors for toxicity.

Material and Methods: From April 2009 to December 2014, 540 patients received radiotherapy after breast conservative surgery (BCS). The dose was 42.4 Gy in 16 daily fractions, 2.65 Gy per fraction. The boost to the tumor bed was administered only in grade 3 patients and in patients with close or positive margins. Acute and late toxicity were prospectively assessed during and after radiotherapy according to RTOG scale. The impact of patients clinical characteristics and dose inhomogeneities on the occurrence of an higher level of toxicity has been also evaluated by univariate and multivariate analysis.

Results: One hundred and nineteen patients received chemotherapy. Sixty-one patients (11.3%) underwent trastuzumab therapy and four hundred and forty-one (81.6%) hormone therapy. The mean age was 74 (range 46-91 yrs). Forty seven (8.7%) and two hundred fifty eight (47.5%) patients were affected by diabetes mellitus and hypertension, respectively. G1 and G2/G3 acute skin toxicity were 53.7% and 28.5% in patients received chemotherapy and 63.2% and 18.5% in patients who did not receive it, respectively. No significant difference (p<0.092) was find

<table>
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<th>APBI (n=169)</th>
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*p-value from log rank test